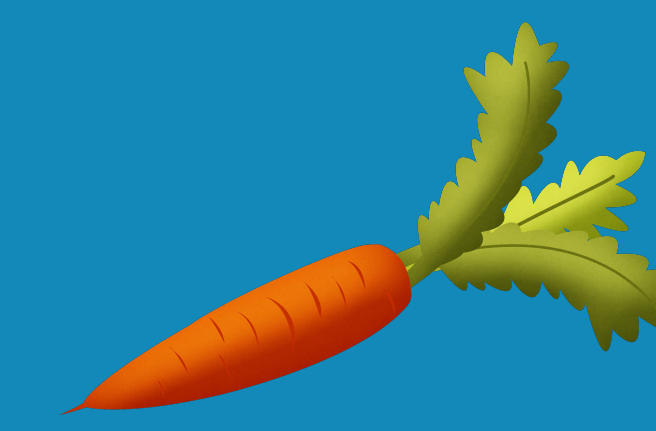


Growing Plants in an Urban Setting

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INTRODUCTION

“Dream big, start small.” That was my mantra as my journey began to produce a sustainable garden of edible organic plants. It all began on a sunny day in early September 2017. I walked to the small enclosed community garden on the Palo Alto High School campus. My task was to transform the small unkempt half of the enclosure into a garden that could sustain a variety of edible organic plants. This would be a daunting task!

How to best plant an edible garden that flourishes in an urban environment? The goal of this research project is to grow and sustain a healthy garden environment. Anyone, even with a small planter box, can grow vegetables and herbs. This is especially useful in urban areas where people don't have access to fresh fruit and vegetables (Seed Money, 2015). To keep the garden accessible to beginners, the materials used are very simple, so as to not complicate the process. I wanted to document how the process went, because I want anyone to be able to do this, even if they have never seen my project and just want to start a garden.



Figure #4: Me working on the plants in the garden



Figure #1: The plants starting to grow in the starter tray



Figure #3: Lemon Cucumber growing in a pot



Figure #2: Rainbow Chard, Black Corn, Purple Carrots, Lemon Cucumbers and Romanesco

RESEARCH METHODOLOGIES / DATA AND FINDINGS

The execution of this research project was through hands-on implementation of establishing a community garden and thorough note-taking on its progress. To initiate the garden, planter boxes were built, organized by appropriate positions, and filled with dirt and compost, and then seedlings were transplanted to the boxes. The execution of this project included hands-on planting, logging notes on the status of the progress of each crop, watering the crops, and making sure no animals tried to eat them. The research methodologies I used to help me go forth in my project were: researched websites and watched videos to understand how to create and sustain a garden successfully, worked with a team of other AAR students to get planter boxes built with an irrigation system, keeping field notes and photos about the process, used seed starting soil mix to propagate the seeds, planted seeds and prepared the planter boxes and planted the first batch of seedlings into the boxes

In early January, the list of materials needed for the garden was compiled, such as planter boxes, an irrigation system and seedlings. The seeds were started around this time; some came from a seed kit and the others from packets. The seeds were sown in 2-3 rows each in trays. At the end of the month, the planter boxes were built. They were then painted and prepared for planting.

The seedlings were growing well and looked healthy. They could not be moved to the planter boxes, as it was frost season and they would have died quickly from the cold. The seedling trays were watered daily and put outside in the sunlight. Many of the seedlings died after first growing vigorously, and the cause was unknown. Some of them were eaten by insects when kept in the outdoors. At the end of February, the planter boxes were ready and the surviving seedlings were planted. They are doing well. Another tray of 5 kinds of seedlings were planted to help recover from the losses of the earlier seedlings.

DISCUSSION, ANALYSIS, AND EVALUATION

How to best plant an edible garden that flourishes in an urban environment?

- Planning is key to the success of the garden.
- The growing cycle is very important. Seeds have to be started to coincide with the right time to plant them outdoors to attain the maximum number of successful plants.
- Many factors are responsible for the success of the garden: climatic conditions, proper soil nutrients, adequate sunlight, location and care.
- Some of the seeds never germinated. However, about 75% of the seeds germinated in total. The surprise was that 90% of the seedlings grown in trays died 4 weeks into their growth cycle. They could not be planted in the ground at that time due to the cold from the frost (which would have killed them). One of the possible reasons is that there was overcrowding, and some loss was due to insects eating the seedlings.

CONCLUSIONS, IMPLICATIONS, AND NEXT STEPS

- It was not as easy to grow the plants as I thought. I started a third tray of seeds to replace some of the lost seedlings
- Soaking the seeds for 24 hours before planting worked very well. The success rate of germination was very high
- The harvest is yet to be seen, as the planting cycle was not in sync with the school year.

Next Steps

For the beginner, it might be useful to buy some plants from a nursery (in addition to the plants grown from seed), and research how to grow a vegetable garden or take a class on urban gardening from a local community organization.

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